

IN THE CLAIMS:

Cancel claims 1-13, 19 and 22-24 without prejudice, and amend claim 14 as follows:

1-13 (Cancelled)

14. (Currently Amended) A method for identifying materials in a pulp or paper sample comprising the steps of  
providing a wet pulp or paper sample,  
translating the sample along plural axes in a selected pattern,  
scanning the sample with a Raman spectroscope as it is translated along said pattern,  
comparing Raman spectroscopic images generated by the probe with a library of Raman spectroscopic images of known materials potentially present in the sample, ~~and~~  
identifying and communicating data on at least one of the materials discerned in the sample, and  
spectroscopically analyzing characteristics of the sample along a Z-axis of the sample.

15. (Original) A method as set forth in Claim 14 wherein the steps recited in Claim 14 are carried out at speeds sufficient to produce a Raman spectroscopic analysis of the sample within a time frame of about thirty minutes or less based on a sample surface size of at least 64 square inches.

16. (Original) A method as set forth in Claim 14 wherein the translating and scanning steps are substantially continuous, and said identifying step

comprises identifying cells of foreign substances from the desired constituents of the pulp or paper.

17. (Original) A method as set forth in Claim 16 further comprising the steps of translating and scanning the identified cells of foreign substances in the sample, and identifying and communicating data on at least one of the foreign substances discerned in the sample.

18. (Original) A method as set forth in Claim 17, further comprising the step of generating a map of the foreign substances discerned in the sample.

19. (Cancelled)

20. (Original) A method as set forth in Claim 14 wherein said library of Raman spectroscopic images of known materials comprises contaminant images, and wherein said step of identifying and communicating data includes determining the size of at least one contaminant material discerned in the sample.

21. (Original) A method as set forth in Claim 14 further comprising the step of providing the pulp or paper sample on-line in a pulp or papermaking process.

22-24. (Cancelled)

25. (Original) A computer program product for causing a spectrometer apparatus to detect impurities in a pulp or paper sample, the program product comprising computer readable instructions embedded in a computer readable medium that when executed by a computer cause the spectrometer apparatus to:

scan at least one background sample with the spectrometer, store a resultant background data member in a library;

scan at least one contaminant sample with the spectrometer, store a resultant contaminant data member in said library;

divide the sample into a plurality of cells, convey the sample while scanning said plurality of sample cells with the spectrometer, compare scan data from said sample scan of each of said plurality of cells with said background data member, flag each cell having a scan differing from said background data member; and

re-scan each of said flagged cells and compare resultant scan data with said contaminant data members.

26. (Original) A computer program product as set forth in Claim 25, further comprising the step of converting raw scan data to normalized vector data.

27. (Original) A computer program product as set forth in Claim 25, wherein said program instructions when executed cause the spectrometer apparatus to convey the sample along an X and Y-axis orientation, and wherein said program instructions when executed further cause the spectrometer apparatus to output data comprising a relative location of contaminants with reference to said X and Y-axis orientation.